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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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C-O-N-F-I-D-E-N-T-I-A-L

COUNTRY	East Germany/Communist China	REPORT	
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"Documentations"
concerning equipment, for power plants in Communist China, being
supplied by Regler- und Geraetewerk Teltow. The material consists
of the following:

- A. Description of a feed water pump control equipment for 3 electric pumps and 2 turbine pumps (2 sheets)
- B. Description of one deep water pump control station for 3 electric pumps and 2 turbine pumps (2 sheets)
- C. Description of 1 one control cabinet for the oil pump station (2 sheets)
- D. Description of 1 control unit for water and superheated steam (3 sheets)
- E. Description of 2 semiautomatic boiler control devices for 2 high power radiation boilers (5 sheets)

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Description of the Part of the Plant
concerning

1 Feed Water Pump Control Equipment for 3 Electric Pumps
and 2 Turbine Pumps

Item 5 1 Feed water pump control cabinet according to drawing No.: 2.51.113, totally enclosed iron construction, accessible from both sides, with inside lighting and fluorescent lamps for the outside lighting, installed, piped, and electrically wired.

The following items are mounted in the control cabinet:
Items 1 d, 1 e, 2 b, 2 h, 3 c, 4 a, 4 b, 4 d.

The following items, furthermore, were not installed in the cabinet but packed in chests, due to their protection from damages during transportation.

The respective measuring instruments will be mounted on site.

Items 1 a, 1 f, 1 i, 2 a, 2 f, 2 g, 2 i, 3 a,
and 3 b.

All other items not mentioned above are not installed in the cabinet and will be mounted in course of its assembly at the points marked in the layout of measuring points 2.03.11 - 0421, wiring diagram 2.51.113 - Bp. 1 b, assembly drawing 2.51.113, and projection No.: 2.03.11 - 0306.

1.) The Tank Control Device Comprises:

Item 12 2 Level gauges 24/SM 21 + 2/Z 112
with mercury float measuring gear,
and built-in contacting device

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with upper and lower limit closing contact,
 indication range: 0 ... 300 cm
 working pressure: 1.1 kg/cm²
 working temperature: 102°C

- Item 1b 2 Water seal vessels with stop valves
- " 1c 2 Valve batteries 24/VB 20
- " 1d 2 Radiant fields, 4-fold,
with bulbs 250-V, 15 W
- " 1e 9 Relays RWRK
- 2 1f 2 Temperature gauges 28/RR 2 (1) type H
with cross-coil gear
switch position: off - on
driving gear with synchronous motor 220 V, 50 cycles
sequence of scanning: 15 sec.
to be connected to the resistance thermometer item 1g
indication range: 0.... 250°C
- " 1g 2 Resistance thermometers 28/153
length of dipping tube: 250 mm
- " 1h 2 Welding-on sockets 2.93.17
for mounting the item 1g
- " 1i 2 Tank pressure gauges 1/BW 620
indication range: -1 ... 2.5 kg/cm²

2.) The Feed Pump Control Device Comprises:

- Item 2a 5 Feed water pressure gauges 1/BW 620
indication range: 0 ... 63 kg/cm²
- " 2b 5 Manometer stop valves 2/V 20
- " 2c 10 Water flow meters 24/CM 20 Z + 28/RZ 1.60
indicating and metering, with built-in transmitter,
with mercury float measuring gear,
metering gear: 5 figures, size of figures 9 mm,
electrically driven by self-starting
synchronous motor 220 V, 50 cycles
water pressure: 59 kg/cm²
water temperature: 102°C
real pressure: 6400 mm w.c.
indication range: 0 ... 120 tons/hr
- " 2d 10 Standard diaphragms 24/B 20 AD 64 NW 125
one-sectioned annular diaphragm with stop valves
throughput: 120 tons/hr
real pressure: 6400 mm w.c.
water pressure: 59 kg/cm²
water temperature: 102°C

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Item 2e 10 Valve batteries 24/VS 20

- " 2f 10 Water flow meter 2B/AFK
 with cross-coil gear
 indication range: 0 ... 120 tons/hr
- " 2g 3 Ammeters, Pl.-No.: 324 546
 with moving iron gear
 to be connected to current transformers 50/5 A
 indication range: 0 ... 50 A
- 2 2h 3 Back-signalling control switches, Pl.-No.: 352 675
 with bulbs 250 V, 15 W
- " 2i 2 Steam pressure gauges 1/BM 620
 indication range: 0 ... 63 kg/cm²

3.) The Deserator Control Device Comprises:

- Item 3a 2 Pressure gauges 1/BM 620**
 indication range: 0 ... 6 kg/cm²
- " 3b 2 Pressure gauges 1/BM 620
 indication range: -1 ... 4 kg/cm²
- " 3c 6 Manometer stop valves 2/VP 20

4.) The Signalization Control Device Comprises:

- Item 4a 1 Relay RM 91 Pl.-No.: 351 477**
- " 4b 1 Press button plate, Pl.-No.: 269 210
- " 4c 1 Buzzer 220 V
- " 4d 1 Dry plate rectifier 220/6 V - 1.2 Amp.

We confirm, furthermore, that the sets belonging to the construct-
 ional groups 1, 2, 3, and 4 were subject to a function test.

We herewith confirm that the quality of the built-in material is
 in accordance with the statements given on the drawings.

As to all items of foreign make the suppliers were requested to
 submit the corresponding certificates in correct indication and
 metering as well as unobjectionable service of the respective
 measuring sets.

Teltow, December 23, 1955

(vom Hedt)
 Technical Director

(vom Hedt)
 Works Manager

(Huttmann)
 Manager of the Quality
 Test Floor

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Description of the Part of the Plant
concerning

1 Deep Water Pump Control Station for 3 Electric Pumps
and 2 Turbine Pumps

Hauling Capacity: 64 tons/hr per Pump

Item 5 1 Deep water pump control cabinet according to drawing No. 2.51.113, totally enclosed iron construction, accessible from both sides, with inside lighting and fluorescent lamps for outside lighting, installed, piped, and electrically wired.

The following items are installed in the control cabinet:

Items 1 d, 1 e, 2 b, 2 g, 2 h, 3 c, 4 a, 4 b, 4 c, and 4 d.

The items mentioned hereunder, furthermore, were not installed in the cabinet but packed in chests, due to protection from damages during transportation.

The respective measuring instruments will be mounted on site.

Items 1 e, 1 f, 1 i, 2 a, 2 c, 2 f, 2 i, 3 a, 3 b.

All other items not mentioned above are not installed in the cabinet and will be mounted in course of assembly at the points marked in the
Layout of measuring points 2.03.11-0419,
Wiring diagram 2.51.113 - Bp. 1,
Assembly drawing 2.51.113, and
Projection No.: 2.03.11 - 0333.

1.) The Tank Control Device comprises:
Item 1a 2 Level indicators 24/SM 21 + 2/Z 112
Working pressure: 1.1 kg/cm²
Working temperature: 100°C
Indication range: 0 ... 300 cm

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- Item 1b 2 Water seal vessels with stop valves
- " 1c 2 Valve batteries 24/VB 20 A
- " 1d 2 Radiant fields, 4-fold, with bulbs 250 V, 15 W
- " 1e 9 Relays EQW
- " 1f 2 Temperature gauges 28/HK 2 (1) type H,
indication range: 0 ... 250 °C
- " 1g 2 Resistance thermometers 28/155
length of the sensing tube: 250 mm
- " 1h 2 Welding-on sockets 2.92.17
- " 1i 2 Tank pressure gauges 1/BM 620,
indication range: 0 ... 63 kg/cm²

2.) The Feed Pump Control Includes:

- Item 2a 5 Feed water pressure indicators 1/BM 620,
indication range: 0 ... 100 kg/cm²
- " 2b 7 Manometer stop valves 2/VP 20
- " 2c 10 Water flow meters 24/BM 20 Z + 28/HZ 1.60
water pressure: 59 kg/cm²
temperature of water: 102 °C
real pressure: 6400 mm W.C.
indication range: 0 ... 120 tons/hr
- " 2d 10 Standard diaphragms 24/E 20, ND 64, HZ 100,
with stop valves;
service data: throughput: 120 tons/hr
real pressure: 6400 mm W.C.
water pressure: 59 kg/cm²
temperature of water: 102 °C
- " 2e 10 Valve batteries 24/VB 20 A
- " 2f 10 Water flow meters 28/APK
indication range: 0 ... 120 tons/hr
- " 2g 3 Ammeters PL.-No.: 324 546,
for connection to current transformers
indication range: 0 ... 30 Amp.
- " 2h 3 Signalling-back control switches PL.-No.: 352 675,
with incandescent bulb 250 V, 15 W
- " 2i 2 Steam pressure gauges 1/BM 620,
indication range: 0 ... 63 kg/cm²

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3.) The Deserator Control Includes:Item 3a 2 Pressure gauges 1/BM 620,
indication range: 0 ... 6 kg/cm²" 3b 2 Pressure gauges 1/BM 620,
indication range: 0 ... 6 kg/cm²

" 3c 6 Manometer stop valves 2/VP 20

4.) The Signalization Control Includes:

Item 4a 1 Relay RH 91

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" 4b 1 Press button plate

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" 4c 1 Buzzer

" 4d 1 Dry plate rectifier 220/6 V, 1.2 Amp.

We confirm, furthermore, that the sets belonging to the constructional groups 1, 2, 3, and 4 were subject to a function test.

We herewith confirm that the quality of the built-in material is in accordance with the statements given on the drawings.

As to all items of foreign make the suppliers were requested to submit the corresponding certificates on correct indication and metering as well as unobjectionable service of the measuring sets.

Teltow, December 21, 1955

(vom Hedt)
Technical Director

(Vom Hedt)
Works Manager

(Halbach)
Manager of the
Quality Test Floor

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Description of the Part of the Equipment1 Control Cabinet for the Oil Pump Station

Item 14a. 1 Control Cabinet for the oil pump station according to projection No: 2.03.11 - 0331 - totally enclosed iron construction, access door on the back, with inside lighting and fluorescent lamps for outside lighting, with piping and electrical wiring.

The control cabinet contains the following items:

Item 5 a, 5 b, 5 e, 6 b, 6 c, 6 e, 6 f,
6 g, 6 h, 6 k, 6 l, 12 a, and 13 b.

All other items not mentioned above are not installed within the cabinet, and will be mounted outside of it in course of the assembly at the points marked in the Control scheme 2.03.11 - 0113

Layout of measuring points No: 2.03.11 - 0413

Wiring diagram 2.51.108 - Bp. 1

Assembly drawing 2.51.125

1.) The Differential Pressure Governor comprises:

- Item 5a. 1 Control gear for the differential pressure governor according to drawing 2226-20, with measuring gear of double corrugated pipe, cap with contact spring, and amplifier sequence piston
- " 5b 5 Remote control cocks according to drawing 2.45.04
- " 5c 3 Crank cylinders with limit position contacts according to drawing 2233-02

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- Item 5d 3 Control valves ND 64, NW 100
- " 5e 1 Control gear for the differential pressure governor according to drawing 2.55.26-35 with measuring gear of double corrugated pipe, return rods and return piston.

2) The Auxiliary Power Plant Includes:

- Item 6a 1 Three-piston pump station according to drawing 2.31.55 delivery capacity of each pump: 120 liters/min, three-phase motors for 220/380 V, of 3.2 KW, 1450 rpm., protective system P 33.
- " 6b 1 Oil pressure gauge RM-Zr-oR-Ko, 160 dia., with built-in contact device and an adjustable underpressure closing contact. Range of indication: 0 ... 16 kg/cm²
- " 6c 1 Manometer stop valve 2/VP 20
- " 6e 4 Manometer stop valves 2/VP 20
- " 6f 3 Control contactors ALFb 10,
- " 6g 3 Press button plates
- " 6h 4 Signal lamps incl. bulb 250 V, 15 W, socket E 14
- " 6k 1 Relay RM 91
- " 6l 1 File switch

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3.) The Control Plant (Electric Power) Includes:

- Item 12a 3 Ammeters, type Qu 144 w, Range of indication: 0 ... 15 Amp.

4.) The Control Plant (Signalization) Includes:

- Item 13b 2 Radiant fields, 4-fold, incl. bulb 250 V, 15 W, socket E 14

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We confirm, furthermore, that the parts belonging to the constructional groups 1 and 2 were tested and controlled during their production, and subject to a final functional test.

We herewith confirm that the quality of the built-in material is in accordance with the statements given on the drawings.

As to all items of foreign make the suppliers were requested to submit the corresponding certificates on correct indication, metering as well as unobjectionable service of the measuring devices.

Teltow, November 22, 1955

(vom Hedt)
Technical Director

(vom Hedt)
Manager

(Halbach)
Manager of Quality Test

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Description of the Plant

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Description of the Part of the Plant

concerning

1 Control Equipment for Water and Superheated Steam

- Item 7 Measuring cabinet according to drawing No. 2.51.124, totally enclosed iron construction, access doors to the right and to the left, with inside lighting, emergency lighting and fluorescent lamps for outside lighting, installed, piped and electrically wired.

The following items are installed in the measuring cabinet:

Items 1 e, 1 g, 2 i, 2 k, 2 l, 3 l, 3 m, 3 n, 4 f, 4 g, 4 h, 5 q, 5 r, 5 s, 6 a, 6 c, and 6 d.

The following items, furthermore, were not installed in the cabinet but separately packed in chests, due to protection from damages during transportation.

The corresponding measuring sets will be mounted on site.

Items 1 a, 1 c, 2 a, 2 e, 2 f, 3 a, 3 d, 3 e, 3 f, 3 i, 3 k, 3 o, 4 a, 4 b, 4 c, 5 a, 5 b, 5 f, 5 g, 5 h, and 5 l.

All other items not mentioned above are not installed in the cabinet, and will be mounted in course of its assembly at the points marked in the layout of measuring places No.: 2.03.11-0418, wiring diagram 2.51.124 - Sp. 1, assembly drawings 2.51.124, and projection drawing No.: 2.03.11 - 0314.

1.) The Control Device (Water) Comprises:

- Item 1a 1 Level indicator 24/SV 21 + 2/2 112 with mercury float measuring gear, built-in contacting device, with closing contact for upper and lower limit, with mercury-filling; indication range: 0 ... 2500 mm H₂O; working pressure: 1 kg/cm²; working temperature: 40°C

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- Item 1b 1 Water seal vessel
- " 1c 1 Valve battery 24/VB 20 A
- " 1d 1 Pressure gauge for industrial water 4/BM 620
indication range: 1 ... 4 kg/cm²
- " 1e 2 Signal lamps, Pl.-No.: 393 704
with bulbs 250 V, 15
- " 1g 2 Relays B4WX

2.) The Control Device (Additional Water) Comprises:

- Item 2a 1 Level indicator 24/SM 21 + 2/Z 112,
with mercury float measuring gear,
built-in contacting device,
with closing contacts for upper and lower limit,
mercury-filling;
indication range: 0 ... 2600 mm ±0.5
working pressure: 1 kg/cm²
working temperature: 60 °C
- " 2b 1 Water seal vessel
- " 2c 1 Valve battery 24/VB 20 A
- " 2e 1 Manometer stop valve 2/V 20
- " 2f 1 Temperature gauge for additional water 28/AFK,
with cross-coil gear,
indication range: 0 ... 150 °C
- " 2g 1 Resistance thermometer,
dipping depth: 250 mm
- " 2h 1 Welding-on socket for mounting the resistance thermometer
ex item 2g
- " 2i 4 Signal lamps, Pl.-No.: 393 704,
with bulbs 250 V, 15
- " 2k 2 Signal lamps, Pl.-No.: 393 704,
with bulbs 250 V, 15
- " 2l 4 Relays B4WX

3.) The Control Device (Feed Water) Comprises:

- Item 3a 2 Level indicators 24/SM 21 + 2/Z 112,
with mercury float measuring gear,
built-in contacting device,
with closing contact for upper and lower limit,
mercury-filling;

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indication range: 0 ... 2800 mm W.C.
 working pressure: 3 kg/cm²
 working temperature: 140 °C

- Item 3b 2 Water seal vessels with stop valves
- " 3c 2 Valve batteries 24/VB 20 A
- " 3d 3 Feed water pressure gauges 1/BM 620
 indication range: 0 ... 63 kg/cm²
- " 3e 3 Manometer stop valves 2/V 20
- " 3f 1 Feed water temperature gauge 28/AFK
 with cross-coil gear
 indication range: 0 ... 150 °C
- " 3g 1 Resistance thermometer
 dipping depth: 250 mm
- " 3h 1 Soldering-on socket
 for installing the resistance thermometer ex item 3g
- " 3i 2 Steam pressure gauges 1/BM 620
 indication range: 0 ... 63 kg/cm²
- " 3k 2 Manometer stop valves 2/V 20
- " 3l 5 Signal lamps, Pl.-No.: 393 704,
 with bulbs 250 V, 15 W
- " 3m 1 Signal lamp, Pl.-No.: 393 704
 with bulb 250 V, 15 W
- " 3n 5 Delays 2/AA
- " 3o 2 Feed water pressure gauges 1/BM 620
 indication range: 0 ... 63 kg/cm²

4.) The Control Device (Superheated Steam) Comprises:

- Item 4a 1 Double-tape recorder 27/SP 220
 with one temperature and one pressure measuring gear,
 clockwork of precision, with electrical drive by self-
 starting synchronous motor 220 V, 50 cycles,
 temperature feeler with protective tube made of heat-
 resistant steel;
 dipping depth: 200 mm
 indication range: 0 ... 300 °C, and 0 ... 4 kg/cm²
- " 4b 1 Manometer stop valve 2/V 20

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Item 4a 1 Flow meter for superheated steam 24/SMS 20 Z,
indicating, metering, and recording,
with mercury float measuring gear,
with self-starting synchronous motor 220 V, 50 cycles,
metering gear: 5 figures, size of figures 9 mm,
driven by clockwork of precision with electrical drive
by self-starting synchronous motor 220 V, 50 cycles,
mercury-filled;
indication range: 0 ... 40 tons/hr
steam pressure: 2 kg/cm²
steam temperature: 250°C
real pressure: 6400 mm Hg.

" 4d 1 Valve battery 24/VB 20 A

" 4e 1 Standard diaphragm 24/B 21 No 16, Nr 500
with condensing vessels and stop valves,
throughput of steam: 40 tons/hr
steam pressure: 2 kg/cm²
steam temperature: 250°C
real pressure: 6400 mm Hg.

" 4f 2 Signal lamps, Pl.-No.: 393 704,
with bulbs 250 V, 15 W

" 4g 2 Signal lamps, Pl.-No.: 393 704
with bulbs 250 V, 15 W

" 4h 2 Relays KCMX

" 4i 2 Welding-on sockets

5.) The Control Device (Hot Cycle) Comprises:

Item 5a 1 Pressure gauge 1/DM 620
indication range: 0 ... 10 kg/cm²

" 5b 1 Manometer stop valve 2/V 20

" 5c 1 Flow meter for hot water 24/SMS 20 Z,
indicating, metering, and recording,
with mercury float measuring gear,
with self-starting synchronous motor 220 V, 50 cycles,
metering gear: 5 figures, size of figures: 9 mm,
driven by clockwork of precision with electrical drive
by self-starting, synchronous motor 220 V, 50 cycles,
mercury-filled;
indication range: 0 ... 400 tons/hr
water pressure: 4 kg/cm²
temperature of water: 125°C
real pressure: 6400 mm Hg.

" 5d 1 Valve battery 24/VB 20

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- Item 5a 1 Standard diaphragm 24/DB 20 A MD 16, H 25
one-sectioned annular chamber diaphragm with stop valves
throughput of water: 400 tons/hr
pressure of water: 4 kg/cm²
temperature of water: 125 °C
real pressure: 6400 mm Hg.
- " 5 1 Pressure gauge 1/DM 620
indication range: 0 ... 10 kg/cm²
- " 5g 1 Manometer stop valves 2/V 30
- " 5h 1 Water flow meter 24/SM 20 1
indicating, metering, and recording,
with mercury float measuring gear,
with self-starting, synchronous motor 220 V, 50 cycles,
metering gear: 5 figures, size of figures: 9 mm,
driven by clockwork of precision, with
electric drive by self-starting syn-
chronous motor 220 V, 50 cycles,
filled with mercury,
indication range: 0 ... 400 tons/hr
water pressure: 4 kg/cm²
temperature of water: 75 °C
real pressure: 6400 mm Hg.
- " 5i 1 Valve battery 24/VB 20 1
- " 5k 1 Diaphragm, standard type, 24/VB 20 A MD 16, H 300,
one-sectioned annular chamber diaphragm with stop valves
throughput of water: 400 tons/hr
pressure of water: 4 kg/cm²
temperature of water: 40 °C
real pressure: 6400 mm Hg.
- " 5l 1 Seix-colour recorder 28/SK 100/6e,
with cross-coil gear,
with self-starting, synchronous motor 220 V, 50 cycles,
indication ranges:
1) 0 ... 10 kg/cm²
connected to transmitter ex item 5m
2) 0 ... 10 kg/cm²
connected to transmitter ex item 5m
3) 0 ... 150 °C
connected to resistance thermometer ex item 5o
4) 0 ... 150 °C
connected to resistance thermometer ex item 5o
- " 5m 2 Hot water pressure gauges 1/DM 20b + 28/Rz.1.60, 150 dia.
with built-in transmitter,
indication range: 0 ... 10 kg/cm²
- " 5n 2 Manometer stop valves 2/V 30
- " 5o 2 Resistance thermometers 28/153
dipping depth: 250 mm

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Item 5p 2 Terminal-on sockets 2.93.17
for installing the resistance thermometer in Item 5o

" 5o 6 Signal lamps, Pl.-No.: 393 704
with bulbs 250 V, 15 W

" 5r 7 Signal lamps, Pl.-No.: 393 704
with bulbs 250 V, 15 W

" 5s 7 Relays REXA

6.) The Control Device (Auxiliary Plant) Comprises:

Item 6a 1 Dry plate rectifier 220/6 V - 0.7 A

" 6b 1 High current lamp 220 V

" 6c 1 Relay RH 91, Pl.-No.: 351 477

" 6d 1 Press button plate, Pl.-No.: 269 210

We confirm, furthermore, that the sets belonging to the construct-
ional groups 2, 3, 4, and 5 were subject to function tests.

We herewith confirm that the quality of the built-in material is
in accordance with the statements given on the drawings.

As to all items of foreign make the suppliers were requested to
submit the corresponding certificates on correct indication,
metering as well as unobjectionable service of the respective
measuring devices.

Teltow, December 23, 1955

(von Hedt)

Technical Director

(von Hedt)

Works Manager

(Heibach)

Manager of the
Quality Test Floor

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Description of the Section of the Plant
concerning

2 Semi-automatic Boiler Control Devices for 2 High
Power Radiation Boilers

Output of Steam: 25 tons/hr

Item 14 1 Double cabinet, three-sectioned, according to drawing
No.: 2.51.123, iron construction, totally enclosed,
access doors arranged to the right and to the left, with
inside lighting, emergency lighting and fluorescent lamps
for the outside lighting, with projecting control desk,
installed, piped, and electrically wired.

The following items are installed in the control cabinet:

Items 1 a, 2 a, 2 b, 2 c, 2 f, 2 h, 3 a, 3 b,
4 b, 5 d, 5 e, 5 g, 5 h, 5 i, 5 l, 5 m,
5 p, 6 b, 6 d, 7 b, 7 h, 8 b, 9 c, 9 e,
10 i, 12 a, 12 b, 12 c, 12 d, 12 e, 12 f, 12 g,
12 h, 12 i, 12 k, 12 m, 12 n, 12 o, and 12 p.

The following items, furthermore, were not installed in
the cabinet but separately packed in chests, due to their
protection from damages during transportation.

The respective measuring sets will be mounted on site.

Items 5 f, 5 k, 6 c, 6 e, 6 i, 7 a, 7 c, 7 g,
7 n, 8 a, 8 c, 9 a, 9 b, 9 d, 9 i, 9 k,
9 m, 10 a, 10 b, 10 e, 10 h, 11 a, 11 b, 11 d,
and 12 q.

All items not mentioned above are not installed in the
cabinet, and will be mounted in course of the assembly
at the points marked in the
layout of measuring places No.: 2.03.11-0104
wiring diagrams 2.51.123 - Bp. 1, 2, 3, 4, 5, and 6
assembly drawing 2.51.123, and
projection drawing No.: 2.03.11 - 0313.

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1.) The Combustion Controller Includes:

- Item 1a 4 Remote control cocks according to drawing 2.45.14
 " 1b 4 Crank cylinders acc. to drawing 2233-02
 " 1c 4 Resistance Transmitter acc. to drawing 2.84.13

2.) The Furnace Pressure Control Includes:

- Item 2a 2 Furnace pressure controlling gears with diaphragm measuring gear, spring timer, and amplifier sequence piston acc. to drawing 2.55.24-22
 " 2b 2 Visible controls acc. to drawing 2220-01
 " 2c 2 Remote control cocks acc. to drawing 2.45.14
 " 2d 2 Crank cylinders acc. to drawing 2233-03
 " 2e 2 Resistance transmitters acc. to drawing 2.84.13
 " 2f 6 Remote control cocks acc. to drawing 2.45.14
 " 2g 6 Crank cylinders acc. to drawing 2233-03 with limit contact for the two limit positions
 " 2h 6 Signalling-back devices Pl.-No. 352 412

3.) The Water Level Control Includes:

- Item 3a 2 Water level controlling gears, acc. to drawing 2.55.27-08, with high pressure diaphragm measuring gear, return rods, return piston, and amplifier sequence piston
 " 3b 2 Remote control cocks acc. to drawing 2.45.14
 " 3c 2 Condensing vessels acc. to drawing 2.60.49
 " 3d 2 Crank cylinders acc. to drawing 2233-02
 " 3e 2 Control valves MD 64 N 80 acc. to drawing --- of double-seat type, for hot water of 140°C
 " 3f 2 Resistance transmitters acc. to drawing 2.84.13

4.) The Temperature Control Includes:

- Item 4a 2 Temperature controlling gears acc. to drawing 2.5540-25 with attached thermostat, return rods, and return piston
 " 4b 2 Remote control cocks acc. to drawing 2.45.14

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- Item 4c 2 Bar cylinders acc. to drawing 2.33.20
- " 4d 2 Control valves ND 64 NW 25, for hot water of 80°C
- " 4e 2 Interlocking valves acc. to drawing 2.36.01
- " 4f 2 Resistance transmitters acc. to drawing 2.04.11

5.) The Emergency Power Station Includes:

- Item 5a 1 Main oil pump station acc. to drawing 2.31.34
hauling capacity 60 litres/min each,
three-phase motors 220/380 V, 2 K, 1420 r.p.m.,
protective system: P 33
- " 5b 2 Back pressure valves ND 16 TF 32
- " 5c 2 Stop valves ND 16 R 32,
installed in item 5a
- " 5d 1 Oil pressure gauge RM-Zr-or-No, 1600 (dis.),
with built-in contacting device and adjustable
closing contact for lower limit,
indication range: 0 ... 16 kgs/cm²
- " 5e 1 Manometer stop valve 2/V 20
- " 5f 1 Oil pressure gauge 1/BN 620,
indication range: 0 ... 16 kg/cm²
- " 5g 1 Manometer stop valve 2/V 20
- " 5h 2 Control contactors ALPb 10 Pl.-No.: 390 022
- " 5i 2 Press button plates Pl.-No.: 269 211
- " 5k 2 Ammeters Flpr. 144 x 72,
with moving iron gear,
indication range: 0 6
- " 5l 1 Signal lamp Pl.-No.: 393 704
with bulb 250 V, 15 W
- " 5m 1 Relay RH 91 Pl.-No.: 351 477
- " 5o 1 Signaller Bell
- " 5p 1 Pile switch Pl.-No.: 281 910

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5.) The Control Device (Steam) Includes:

- Item 6a 2 Steam pressure gauges 1/BM 20 + 28/Rz.160, with built-in transmitter, indication range: 0 ... 65 kg/cm²
- " 6b 2 Manometer stop valves 2/V 20
- " 6c 2 Steam pressure gauges 1/BM 20f, 260 dia., indication range: 0 ... 63 kg/cm²
- " 6d 2 Manometer stop valves 2/V 20
- " 6e 2 Steam flow meters 24/SMS 20 Z, indicating, metering, and recording, with mercury float measuring gear, with electric drive by self-starting synchronous motor 220 V, 50 cycles, metering gear: 5 figures, size of figures 9 mm, driven by clockwork of precision with electric drive by self-starting synchronous motor for 220 V, 50 cycles;
 steam pressure: 63 kg/cm²
 steam temperature: 450° C
 real pressure: 6400 mm Hg.
 indication range: 0 ... 40 tons/hr
- " 6f 2 Standard diaphragms 24/B 21 ND 100 ND 150, one-sectioned annular chamber diaphragm with condensing vessels and stop valves,
 pressure of steam: 63 kg/cm²
 temperature of steam: 450° C
 real pressure: 6400 mm Hg.
- " 6g 2 Valve batteries 24/VB 20
- " 6h 2 Ventilation vessels 24/E 20
- " 6i 2 Steam temperature gauges 28/RK 2 (I) type H, with cross-coil gear, switch positions: on - off, driving gear with synchronous motor 220 V, 50 cycles, scanning intervals: 15 sec., for connection to resistance thermometers Pt 100 Ohms at 0° C, item 6k, indication range: 200 ... 550° C
- " 6k 2 Resistance thermometers 28/153, dipping depth: 200 mm
- " 6l 2 Welding-on sockets 2.93.17
- " 6m 2 Resistance thermometers 28/153, dipping depth: 200 mm
- " 6n 2 Welding-on sockets 2.93.17

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7.) The Control Device (Water) Includes:

- Item 7a 2 Feed water pressure gauges 1/BN 20F, 260 mm.,
indication ranges: 0 ... 63 kg/cm²
- " 7b 2 Manometer stop valves 2/V 20
- " 7c 2 Feed water flow meters 24/SMJ 20 z,
indicating, metering, and recording, with mercury float
measuring gear, with electric drive by self-starting
synchronous motor, 220 V, 50 cycles,
metering work: 5 figures, size of figures 9 mm, driven
by clockwork of precision with electric
drive by self-starting synchronous
motor for 220 V, 50 cycles,
pressure of feed water: 52 kg/cm²
temperature of feed water: 140° C
real pressure: 3200 mm W.C.
indication range: 0 ... 40 tons/hr
- " 7d 2 Standard diaphragms 24/B 20 ND 64 H 20,
one-sectioned annular chamber diaphragm with stop valve
temperature of feed water: 140° C
real pressure: 3200 mm W.C.
- " 7e 2 Valve batteries 24/VB 20 A
- " 7f 2 Ventilations vessels 24/Z 20
- " 7g 2 Feed water temperature gauges 28/1 Fg,
with cross-coil gear,
to be connected to resistance thermometers
at 100 mm at 0° C,
indication range: 0 ... 250° C
- " 7h 2 Changing-over devices for
measuring points, 4-fold Pl.-No.: 326 274
- " 7i 4 Resistance thermometers 28/153,
dipping depth: 150 mm
- " 7k 4 Soldering-on sockets 2.93.17
- " 7l 2 Resistance thermometers 28/153,
dipping depth: 150 mm.
- " 7m 2 Soldering-on sockets 2.93.17
- " 7n 2 Remote water level gauges 24/1 21 + 2/Z 112,
with mercury float measuring gear and built-in contact
device, with sliding contact for upper and lower limit,
indication ranges: -200 ... +200 mm W.C.
working pressure: 42 kg/cm²
filled with mercury,
real pressure at normal water level: 250 mm W.C.
- " 7o 2 Connected fittings 4/930.310, ND 64
for remote boiler water level gauges

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Item 7a 2 Valve batteries 24/VS 20 A

8.) The Control Device (Fuel) Includes/:Item 8a 4 Air pressure gauges 1/BK 620
indication range: 0 ... 630 mm W.C.

" 8b 4 Manometer stop valves 2/V 20

" 8c 4 Air temperature gauges 28/AFD,
with moving coil gear,
indication range: 20 ... 600° C" 8d 4 Thermocouples 28/45 Fe-Ko,
dipping depth: 400 mm

" 8e 20 m of equalizing feeder Fe-Ko

9.) The Control Device (Flue Gas) Includes:Item 9a 2 Furnace draught gauges 1/BK 620,
indication range: -16 ... +10 mm W.C." 9b 4 Flue gas draught gauges 1/BK 620,
indication range: -200 ... 0 mm ..." 9c 2 Twin measuring place changing-over cocks,
4-fold, Pl.-No.: 2.83.06" 9d 4 Flue gas temperature gauges 28/AFD,
with moving coil gear,
indication range: 20 ... 600° C" 9e 2 Change-over switches for measuring places,
10-fold, Pl.-No.: 326 246

" 9f 16 Thermocouples Fe-Ko, dipping depth: 1250 mm

" 9g 100 m of equalizing feeder Fe-Ko

" 9h 4 Flue gas test devices,
transmitter for 0 ... 20 % of CO₂
and 0 ... 4 % of CO+H₂" 9i 4 CO₂-indicators 28/AFD, with moving coil gear,
indication range: 0 ... 20 %" 9k 4 CO+H₂-indicators 28/AFD, with moving coil gear,
indication range: 0 ... 4 %" 9l 4 Thermocouples Fe-Ko,
to be connected to recorders as item 12b,
dipping depth: 1250 mm

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Item 9m 2 Differential pressure gauges 1/BK 690
indication range: 0 ... 100 mm W.C.

10.) The Control Device (Mills) Includes:

- " 10a 4 Draught indicators 1/BK 620,
indication range: -63 ... 0 mm W.C.
- " 10b 4 Temperature indicators 28/APL,
with moving coil gear,
to be connected to thermocouples Fe-Ko, 10c,
indication range: 20 ... 600° C
- " 10c 4 Thermocouples Fe-Ko,
dipping depth: 400 mm
- " 10d 25 m of equalizing feeder Fe-Ko
- " 10e 4 Temperature indicators 28/RK 2 (I) type H,
with cross-coil gear,
driving gear with synchronous motor 220 V, 50 cycles,
scanning intervals: 15 sec.
to be connected to resistance thermometers ex item 10f,
indication range: 0 ... 150° C
- " 10f 4 Resistance thermometers 28/153,
dipping depth: 400 mm
- " 10g 4 Holding sockets 2.93.13
- " 10h 4 Pressure gauges 1/BK 620,
indication range: 0 ... 400 mm W.C.
- " 10i 4 Changing-over cocks for measuring places, 4-fold, 2.98.06
- " 10k 4 Oil pressure gauges 1/BK 20 + Z/112, 150 dia.,
with closing contact for lower limit,
indication range: 0 ... 400 mm W.C.
- " 10l 3 State-contact thermometers type MS 122,
dipping depth: 120 mm,
indication range: 0 ... 100° C
- " 10n 4 Manometer cocks 2 H 20

11.) The Control Device (Recording Sets) Includes:

- Item 11a 4 Real power recorders, Pl.-No.: 313 037
indicating and recording,
with electro-dynamic measuring gear,
for three-phase current of equally loaded phases,
without accessible neutral, with clockwork drive,
for three-phase current of 380 V,
to be connected to current transformers 250 A,
indication range: 0 ... 100 KW

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- Item 11b 2 Three-colour recorders 28/SK 100/3e,
measuring gear: cross-coil gear,
driving gear: self-starting synchronous motor
220 V, 50 cycles,
indication ranges:
1) 0 ... 60 kg/cm²
connection to transmitter ex item 6e;
2) 200 ... 550 °C
connection to resistance thermometer ex item 6m;
3) 0 ... 250 °C
connection to resistance thermometer ex item 7l.
- " 11c 4 Resistance thermometers 28/153,
dipping depth: 200 mm
- " 11d 4 Three-colour recorders 28/SD 100/3e,
measuring gear: moving coil gear,
driving gear: self-starting synchronous motor
220 V, 50 cycles,
measuring ranges:
1) 0 ... 20 %
connection to transmitter ex item 9h;
2) 0 ... 4 %
connection to transmitter ex item 9h;
3) 20 ... 600 °C
connection to thermocouple ex item 9l.
- " 11e 4 Welding-on sockets 2.93.17

12.) The Control Device (Signalization) Includes:

- Item 12a 8 Radiant fields, 1-fold,
with bulbs 250 V, 15 W
- " 12b 4 Radiant fields, 4-fold,
with bulbs 250 V, 15 W
- " 12c 38 Relays 2.93.17
- " 12d 20 Signal lamps,
with bulbs 250 V, 15 W
- " 12e 6 Signal lamps,
with bulbs 250 V, 15 W
- " 12f 2 Press button plates,
- " 12g 2 Signal lamps,
with bulbs 250 V, 15 W
- " 12h 2 Signal lamps,
with bulbs 250 V, 15 W
- " 12i 2 Signal lamps,
with bulbs 250 V, 15 W

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- Item 12k 2 Press button plates
- " 12l 1 High current horn 220 V
- " 12m 2 Press button switches, type N 955 I II
- " 12n 2 Relays RH 91,
- " 12o 4 Dry plate rectifiers 220/6 V - 1.2 A
- " 12p 2 Voltage stabilizers, type SpK
- " 12q 10 Position indicators Cu 90,
indication range: 0 ... 100 %

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13.) The Remote Control of Potentiometer Includes:

- Item 13 4 Remote control devices for
controlling the Pittler's gear.

We confirm, furthermore, that the parts belonging to the constructional groups 1, 2, 3, 4, and 5 were tested and controlled during their production, and subject to a function test.

We herewith confirm that the quality of the materials used is in accordance with the corresponding statements mentioned on the drawings.

As to all items of foreign make the suppliers were requested to submit certificates on correct indication and metering as well as unobjectionable service of the measuring sets supplied.

Teltow, December 22, 1955

(vom Hedt)

Technical Director

(vom Hedt)

Works Manager

(Halbach)

Manager of the
Quality Test Floor

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